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Province of British Columbia

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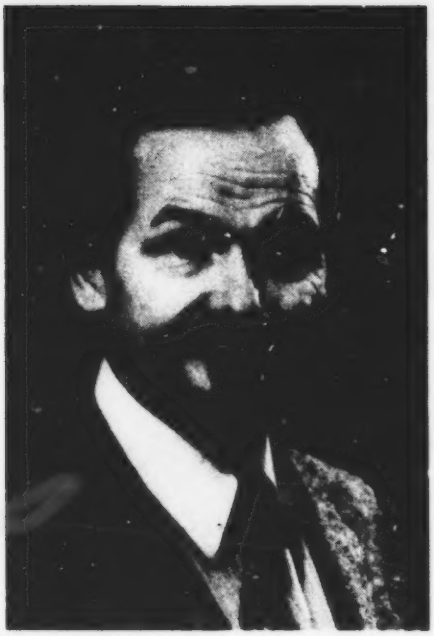


To the Honourable
ROBERT GORDON ROGERS
Lieutenant-Governor of the
Province of British Columbia

MAY IT PLEASE YOUR HONOUR

I have the honour to submit for your consideration the Annual Report of the Ministry of Agriculture and Food for the year 1983.

H.W. Schroeder
Minister of Agriculture and Food

Table of Contents

	Page
Report of the Deputy Minister of Agriculture and Food	1
Organization Chart	2
Ministry Executive and Directors	3
Agriculture Review	5
Executive Officer	9
Management Services	10
Policy Development and Economics	11
Economics	13
Assistant Deputy Minister Field Operations	
Regional Extension Services	
Peace River	16
Central	17
Thompson-Cariboo	19
Okanagan-Kootenay	20
South Coastal	21
Special Projects	23
Specialist and Regulatory Services	
Crop Protection	24
D.A.T.E.	26
Engineering	27
Marketing	28
Soils	30
Veterinary	32
Production Services	
Apiculture	33
Dairy	35
Farmland Resources	37
Field and Special Crops	39
Livestock	43
Poultry	45
Youth Development	47
Assistant Deputy Minister Financial Assistance Programs	
Agriculture and Rural Development	49
Agricultural Credit	50
Crop Insurance	52
Farm Income Insurance	54
Farm Products Finance	56
Information Services Branch	59

Report of the Deputy Minister

To the Honourable Harvey W. Schroeder
Minister of Agriculture and Food

Sir:

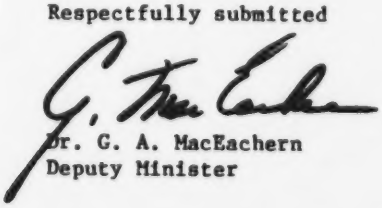
I am pleased to present the 1983 Annual Report of the British Columbia Ministry of Agriculture and Food. This report summarizes the activities of your staff for the twelve months ending December 31, 1983.

The agriculture industry experienced a somewhat difficult economic year due to a decline in total farm cash receipts particularly for fruit, vegetables and some livestock commodities. However, operating costs also declined, though not as sharply, due largely to lower interest rates. Ministry financial and advisory programs assisted producers and processors in maintaining a relatively stable contribution to provincial economic activity.

The downward economic trend also resulted in a reduction of total government staff while some programs were rationalized or returned to the administration of other ministries or the private sector. Nevertheless, staff continued to carry out extension, marketing and regulatory programs in an innovative and creative manner for the benefit of the agriculture and food industry.

Despite the challenging times ahead, your staff will continue to work with diligence and dedication in the year to come.

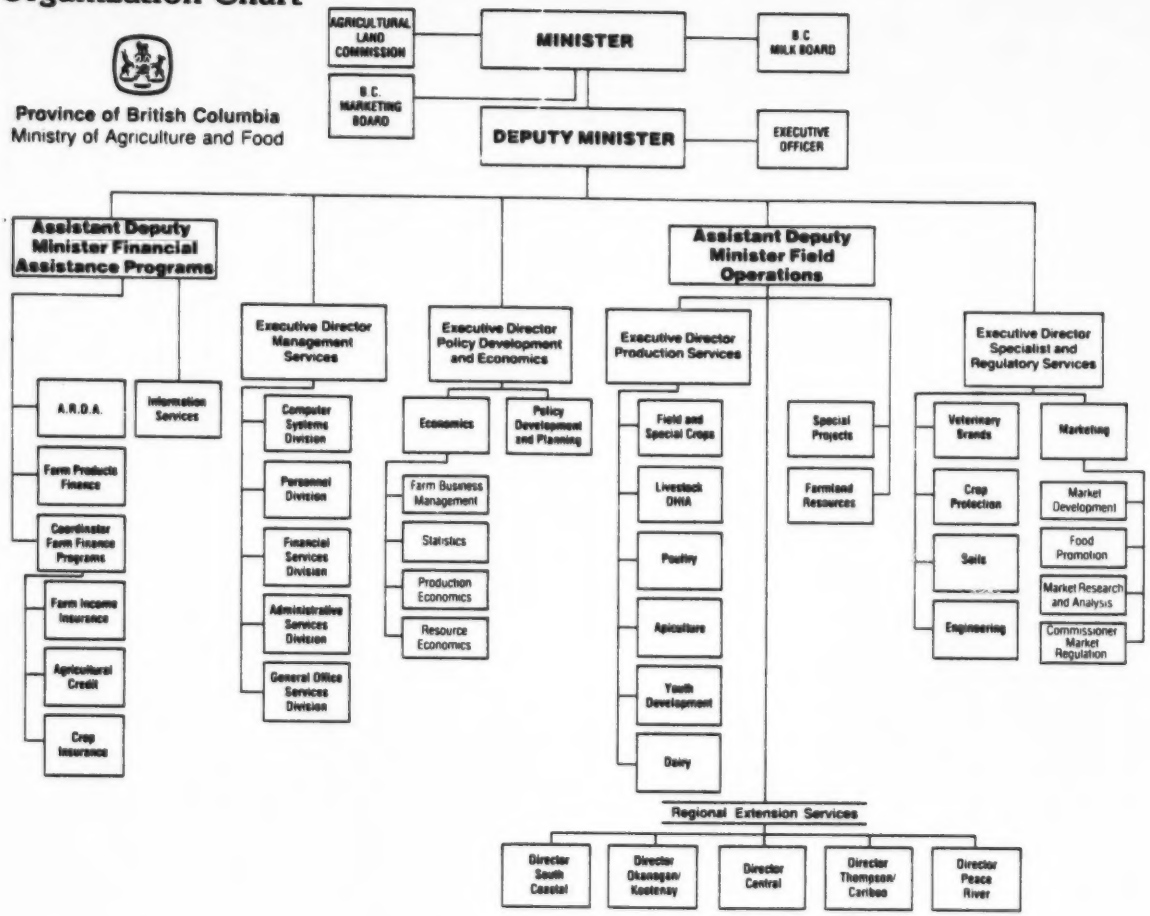
Respectfully submitted



Dr. G. A. MacEachern
Deputy Minister

Organization Chart

Province of British Columbia
Ministry of Agriculture and Food



MINISTRY EXECUTIVE AND DIRECTORS

Minister ..... Hon. H.W. Schroeder
Deputy Minister..... Dr.G.A. MacEachern
Acting A.D.M.Field Operations ..(Apptd. Feb. 7/83)..... I.C. Carne
Acting A.D.M. Financial Assistance Programs(Apptd. March 17/83) B.A. Hackett
Executive Director Management Services ..... J.F. Newman
Executive Director Policy Development and Economics ..... D.M. Matviw
Executive Director Production Services ..... M.G. Oswell
Executive Director Specialist and Regulatory Services ..... R.J. Miller
Regional Director Central ..... R.N. Kohlert
Regional Director Okanagan-Kootenay ..... B.A. Hodge
Regional Director Peace River ..... B.E. Baehr
Regional Director South Coastal ..... W.E.A. Wickens
Regional Director Thompson-Cariboo ..... A.N. Isfeld
Agricultural Credit ..... M.K. Thompson
ARDA ..... J.R. Steele
Apiculture ..... [VACANT]
Crop Insurance ..... P.R. Humphry-Baker
Dairy.....D. Blair
Crop Protection ..... J.C. Arrand
Economics ..... A.B. Lauder
Engineering ..... T.A. Windt
Executive Officer ..... P.H. Pettyfer
Farm Income Insurance ..... R. Jarvin
Farmland Resources/Property Management ..... J.D. Anderson
Farm Products Finance ..... J.B. Phillips
Field and Special Crops ..... W.W. Wiebe
Information Services ..... R.A. Sera
Livestock ..... J.A. Pelter
Poultry.....(Retired July 31/83).....Dr. H. Carlson
Marketing..... D.A. Rugg
Soils ..... R.S. Bertrand
Veterinary ..... Dr. R.J. Avery
Youth Development ..... D.E. Freed

1983 Agricultural Review

Farm Cash Receipts (Tables I and II)

In 1983, the reduction in real disposable income and consumer expenditure as the economy struggled to recover from the recession had its impact on the earnings of B.C. farmers. Farm cash receipts declined to an estimated $898.7 million, or a 4.9 per cent drop from the previous year.

As a result of significantly higher yields than in 1982, the production of grain increased despite lower acreages for the coarse grains. However, grain cash receipts declined due to continued soft world grain prices over most of the year. Canola production increased for the third consecutive year. Expanded acreage and larger harvests in combination with better harvest grades and higher prices produced a 59.2 per cent increase in cash receipts from this oilseed.

Vegetable producers in B.C. produced a larger output in 1983 than in the previous year, but lower prices, especially for the cole crops, resulted in a decline in cash receipts of 6.1 per cent. Fruit producers also experienced an eight per cent drop in cash receipts due chiefly to depressed prices, although the production of apples and in particular, cherries, showed significant increase. Sales of floriculture and nursery products on the other hand, continued to expand as in previous years and cash receipts increased by 4.5 per cent to a new high of $46.7 million.

In the livestock sector, total cash receipts remained almost unchanged from 1982. Despite the heavy slaughter of pastured animals in the U.S. due to drought which prolonged the low price phase of the cattle cycle, beef cash receipts in B.C. increased 5.7 per cent. A strengthening of cattle prices in the last quarter and an increase in calf marketings at disproportionately higher prices more than offset a drop in cattle marketings.

In contrast, receipts from hogs declined 10.6 per cent as the hog price cycle turned downwards and herd reductions occurred in expectation of further price declines. Cash receipts from dairy products declined very slightly by 0.1 per cent despite an appreciable drop in the production and sale of fluid milk owing to a parallel increase in the use of industrial milk for cheese production at the expense of butter. A slight decline in cash receipts was also noted in poultry caused mainly by a significant reduction in the provincial quota on turkeys and a slight drop in poultry prices. Finally, cash receipts of beekeepers fell by six per cent reflecting a decline in honey prices.

Farm Operating Expenses (Table III)

For the first time in more than two decades, farm operating costs and depreciation charges to B.C. farmers declined absolutely in 1983, to an estimated $786.5 million or a 3.2 per cent drop from 1982. Significant reductions were noted in items such as interest (down by 18.4 per cent), feed (down by 7 per cent) and rent (down by 5.2 per cent). These reductions reflected, respectively, the continued fall in interest rates during the year, still soft grain prices combined with reduced feed use due to lower livestock output, and the decreased profitability of farming enterprises in a recession-weakened economy.

Farmland and Number of Farms

A further 6,900 hectares of land were added in 1983 to the estimated 954,800 hectares of cultivated land in B.C. in 1982. The number of farms in B.C. remained at an estimated 20,000.

Food Processing (Table IV)

As of December 1983, there were 725 processors of food and beverages in B.C. This number reflects in part, a better statistical coverage of processors. There was also some increase in the number of firms and increased diversification into new processing activity by existing firms. The factory value of agricultural commodities marketed by such food and beverage firms in the period January to December 1983 was $2.55 billion--up by 1.6 per cent over the sales for the previous year.

Retail Food Prices

1983 witnessed the lowest rate of inflation in food prices in many years. B.C.'s retail food prices rose by only 4.25 per cent, contributing less than one percentage point to the overall inflation rate of 5.5 per cent. Among food groups, relatively modest price increases were noted in eggs (up 3.9 per cent), beef (up 0.6 per cent), and pork (up 0.2 per cent); absolute declines occurred in poultry (down 0.9 per cent) and fruits and vegetables (down 0.7 per cent). In real terms, B.C.'s retail food prices declined by 1.2 per cent with a slightly larger decline of 2.3 per cent in the price of food purchased for home consumption.

TABLE I

BRITISH COLUMBIA FARM CASH RECEIPTS, 1982 - 1983

	1982	Preliminary 1983 ($'000)	Per Cent Change
Wheat	16,510	14,544	-11.9
Oats	2,100	1,506	-28.3
Barley	13,427	8,919	-33.6
Other Field Crop Payments[1]	6,900	8,810	+27.7
Canola	9,286	14,779	+59.2
Potatoes	18,220	14,055	-22.9
Fruits	106,303	97,844	- 8.0
Vegetables	65,403	61,411	- 6.1
Floriculture & Nursery	44,729	46,733	+ 4.5
Other Crops	35,770	29,421	+17.8
TOTAL CROPS	318,688	298,022	- 6.5
Cattle & Calves	130,962	138,386	+ 5.7
Hogs	52,067	46,553	-10.6
Sheep & Lambs	1,437	2,194	+52.7
Dairy Products	217,203	216,898	- 0.1
Poultry	78,168	76,991	- 1.5
Eggs	57,920	59,610	+ 2.9
Honey	4,893	4,601	- 6.0
Other Livestock	15,829	15,707	- 0.8
TOTAL LIVESTOCK AND PRODUCTS	558,479	560,940	+ 0.4
Other Cash Receipts[2]	68,065	39,780	-41.6
TOTAL CASH RECEIPTS FROM FARMING OPERATIONS	945,192	898,742	- 4.9

Source: Statistics Canada, December 1983

[1] Includes crop insurance, cash advances, deferred grain receipts and Western Grain Stabilization Act Payments.

[2] Includes forest products, dairy supplementary payments and British Columbia Farm Income Insurance payments.

TABLE II

BRITISH COLUMBIA FARM EXPENSES & DEPRECIATION CHARGES, 1982-1983

Thousands of Dollars

	1982	Preliminary 1983	Per Cent Change
Taxes	13,525	14,277	+ 5.6
Rent	16,366	15,514	- 5.2
Wages to Farm labour	124,845	132,835	+ 6.4
Interest on Indebtedness	183,695	149,990	-18.4
Total Machinery	96,779	98,891	+ 2.2
Fertilizer & Lime	25,737	24,991	- 2.9
Other Crop Expenses[1]	29,473	29,134	- 1.2
Feed[2]	109,192	101,549	- 7.0
Other Livestock Expenses[3]	21,907	24,747	+13.0
Repairs to Buildings	14,444	15,484	+ 7.2
Electricity & Telephone	18,629	19,824	+ 6.4
Miscellaneous	52,507	53,186	+ 1.3
TOTAL OPERATING EXPENSES	707,099	680,422	- 3.8
Depreciation on Buildings	34,939	33,471	- 4.2
Depreciation on Machinery	70,849	72,571	+ 2.4
TOTAL OPERATING & DEPRECIATION CHARGES	812,887	786,464	- 3.2

Source: Statistics Canada, December 1983

1 Includes pesticides, seed, irrigation, twine and containers.
2 Purchased through commercial channels only.
3 Livestock purchases, A.I. charges and veterinary expenses.

TABLE III

BRITISH COLUMBIA DISTRIBUTION OF FARM CASH RECEIPTS 1983

	$ Million	Percent
Grain & Oilseeds	48.5	5.4
Vegetables	61.4	6.8
Fruits	97.8	10.9
Specialty Crops, (including floriculture and nursery)	76.1	8.5
Cattle & Calves	138.4	15.4
Hogs	46.5	5.2
Dairy products	216.9	24.1
Poultry and Eggs	136.6	15.2
Other Farm Cash Recipts	76.5	8.5
TOTAL FARM CASH RECEIPTS	898.7	100.0

Executive Officer

The Executive Officer is responsible for the coordination of legislative matters within the ministry. During the year, 45 Orders-in-Council and Ministerial Orders were processed relating to 21 of the ministry's 34 Acts.

Agricultural Aid to Developing Countries

The Executive Officer serves as a member and as secretary to the British Columbia Agricultural Aid to Developing Countries advisory committee, which recommended support, sponsored by 12 charitable organizations, for 22 projects and nine disaster operations in 20 countries. Total grants made through the program amounted to $239,000.

World Food Day

World Food Day was held on October 16, 1983. The Executive Officer was chairman of the provincial education committee which prepared an information and ideas package that was distributed to 450 schools.

Exhibitions and Fairs

A total of 59 exhibition and fair associations are registered with the Association of B.C. Fairs and Exhibitions. The Executive Officer ensures responsible administration of the operating grants to fairs made by the Provincial Government. Class A fairs received $10,000; Class B, $6,000; Class C, $3,000 and Fall Fairs $1,000. The P.N.E. received $30,000. Additional special grants were made during the year for some agriculture-based organizations including the B.C. Ploughing Association, Western Agribition, the Veterinary Infectious Disease Organization and the B.C. Provincial Seed Fair.

Farmers' Institutes

The Executive Officer is the Superintendent of Farmers' Institutes and administers the Farmers and Womens Institutes Act. At the end of 1983, there were 77 Farmers' Institutes in the province, with a total approximate membership of 2,359. The Executive Officer is the liaison for the B.C. Provincial Women's Institutes with the ministry. At the end of 1983, there were 14 District Institutes and 170 Women's Institutes in good standing. A grant of $27,770 was provided by the ministry for Women's Institutes.

Management Services

Management Services was responsible for serving the ministry with office space and equipment, a fleet of vehicles and telecommunications, as well as providing liason with Treasury Board.

The financial services division administered the financial and accounting systems and was responsible for a complete audit function of ministry programs as well as an external audit of private sector institutions receiving financialf assistance from the ministry.

During 1983, the ministry acquired a Wang mini-computer for the Victoria headquarters and several micro-systems for regional and district offices.

The print shop and office services distributed publications and handled internal print requirements. It handled mailing lists for publications, forms, factsheets and press releases and processed stationery requisitions as well as handling all incoming and outgoing mail.

Personnel Division

The continued imposition of hiring restraints, and the necessity of 'downsizing' the ministry in 1983 proved to be the major challenge for the division. From a base of 729 Full Time Equivalents (F.T.E.'s) in 1982, the ministry reduced its staff to 596 for 1983. This was accomplished by attrition and by the elimination of the Institutional Farms, the Poultry Test Station and Steeples Ranch. There was little effect on other operational areas of the ministry. Despite the restraints, a total of 150 auxiliary employees were hired, of which approximately 104 were summer students.

The division continued its responsibility for contract administration and for the representation of the ministry in all labor relations matters.

More sophisticated manpower planning was required and, to this end, all personnel data was entered into a newly-acquired Wang data processing system that increased the ability and the speed with which different staffing configurations and personnel data summaries could be prepared.

The necessity for more staff training and development was recognized as an integral part of the requirement of "doing more with less" therefore a planning process was developed to allow for identification of specific areas of development for employees. The division initiated an in-house program of training in data-processing and word-processing to allow for more effective use of both staff and equipment.

The necessity for increased staff training and development in order to meet increased demands was met by arranging management, professional, clerical and secretarial training and development. The division conducted the ministry's third group orientation session when 23 professional, technical and clerical employees participated.

Policy Development and Economics Division

The Policy Development and Economics Division is responsible for the evaluation and evolvement of an effective development strategy for the agriculture and food industry in the province. It provides systems analysis and economic advisory and inputs with regard to issues, concerns, problems, opportunities and trends, affecting the agriculture and food system. The division supports the development and evaluation/review with ministry staff of policy and program alternatives. It provides a statistical and informational base to support decision-making and policy analysis by producers, processors,

distributors, suppliers of inputs, industry and ministry management. The division provides leadership for the provision of business management information and training to the agricultural community of the province.

Policy Development and Planning

The major projects and activities in which staff of the Policy Development and Planning component were involved over the past year are as follows:

- Supported the Financial Assistance Division in a major review of the Farm Income Insurance program.

- Coordinated and prepared a situation report of the tree fruit industry, to identify the potential for implementing productivity improvements at the production, processing and marketing levels.

- Jointly with Farmland Resources, carried out a preliminary review of the property tax system as it affects primary agriculture.

- Monitored the federal Crow rate reform legislation as it underwent change and modification during the parliamentary process, and provided input into a provincial position for the public hearings held in the province.

- Monitored the review by Agriculture Canada of the domestic feed grain policy, and developed a provincial position for ministerial discussion.

- Assisted in the preparation of a discussion paper on research and productivity for the Agriculture Ministers' Conference.

- Worked with the Ministry of Industry and Small Business Development in the disaggregation and refinement of the agricultural sector in the provincial input/output model, in order to improve its predictive capability with respect to major subsectors.

- Directed considerable effort toward land-use issues, chiefly including a review of the methodological and empirical basis for several studies and recommended analytical frameworks to resolve land-use questions.

- Supported the executive in the broad review of ministry operations, to permit an orderly adjustment to reduced budget and staffing levels.

- Initiated a formal ministry planning process, to facilitate more effective review and refinement of ministry programs and operations.

- Developed a briefing book for the use of the Minister and executive, consisting of background information on the British Columbia agricultural economy, and current policy and program issues.

Economics Branch

The Economics Branch provides leadership, educational and support services to farmers, producer organizations and agri-business as well as guidance to the ministry and other government agencies in the areas of farm business management, production economics, resource economics and agricultural statistics.

Farm Business Management

The branch prepared a number of publications to assist farmers with their business skills and practices. Important income tax legislation passed in 1983 prompted the branch to update publications such as Taxation and the B.C. Farmer, Farm Business Partnerships in British Columbia and Farm Business Corporations in British Columbia. Sources of Farm Credit in British Columbia was updated following changes to the Agriculture Credit Act and the ALDA program. A publication on estate planning was being written.

Farm Business Management factsheets were prepared regularly for circulation to over 3,000 farmers. A new factsheet, Planning Notes, was initiated during 1983 to inform producers of the economics of specific production systems. It utilizes a case study, cost of production, partial budget or analysis approach to on-farm investment opportunities and production alternatives.

Staff prepared enterprise case studies which outlined the financial structure, profitability and solvency of typical production units in order to provide resource material for workshops and courses. A variety of case studies were prepared, addressing various enterprises including: cow-calf, beef feedlot, dairy, hog farrow to finish, broilers, vineyard and orchard.

The ARDSA-funded Financial Management Training Project entered its fifth and final full year. In 1983, 556 farmers attended 36 workshops throughout the province to improve their financial management skills. The results of a comprehensive evaluation of the project by UBC will be used to provide future directions on financial management training activities of the branch in the absence of ARDSA funding.

A conference entitled Farm Business Challenges - 1984 was being planned and organized for January, 1984.

Other major activities within the Farm Business Management program included courses and workshops addressing a variety of topics, involvement in a number of national projects, surveys and work in the area of micro-computer applications.

Production Economics

A number of joint projects with other branch and ministry staff were conducted in the area of economic analysis. Some provided information to farmers and agribusiness while others assisted ministry executive in policy planning.

Cost of production studies were conducted for specific commodities and agricultural processes. Seven reports covering 19 different crops were published. Another 16 reports covering 25 fruit, vegetable and field crops were used for extension purposes.

Resource Economics

The resource economics program provided leadership and support to the ministry and other agencies concerning the allocation and use of natural resources.

Three major programs, each comprising several specific projects or studies were initiated. These included a review for economic content of six resource-oriented studies impacting British Columbia agriculture; the development of an agricultural resource data-base for the ministry (four major studies) and the initiation of an analysis of agricultural resources (two projects). These activities pertained mainly to Crown land and to agricultural and industrial development issues. Close contact was developed with all other ministries involved in issues concerning use of natural resources. A number of cost-benefit projects were also conducted.

Agricultural Statistics

The statistics unit provided the B.C. agriculture and food industry with data on the size and nature of the industry. See Table below.

Branch staff produced statistical factsheets and agricultural input cost reports. They conducted surveys relating to field crops, honey, horticultural crops and studied issues related to deficiencies in the 1981 Census of Agriculture and improvements for the 1986 Census.

New Directions and Special Projects

During the year, major efforts were made to improve the branch's ability to respond to increasing demand for economic analysis of broad sectoral issues for policy determination, and to come to terms with reduced operating resources. Many new initiatives were undertaken relating to: Section 31 of the Income Tax Act ("hobby farming"), B.C. agricultural sector input-output model, the Farm Income Insurance program, initiation of a comprehensive planning and monitoring system for improved management of branch projects, initial development of commodity profiles for the B.C. agriculture and food sector and preparation of a major paper on "Restoring a Competitive Edge for the Canadian Agriculture and Food Sector".

KEY B.C. ECONOMIC INDICATORS - AGRICULTURE AND FOOD

	1982	1983	1982-83
Human Population	2,788,875	2,823,375	+1.2
Food processing	$2.4 B	$2.5 B	+1.0
Number of farms	20,012	20,000	-
Cultivated farmland	954,800 ha	961,700 ha	+0.7
Farm expenses	$812.9 M	$786.5 M	-3.2
Farm cash receipts	$945.2 M	$898.7 M	-4.9
Milk sales by volume	486.3 mil. L	467.0 mil. L	-4.0
Poultry sales	47.1 mil. kg	46.0 mil. kg	-2.3
Egg Production	60.0 mil. doz.	59.6 mil. doz.	- .07
Apple Production	386 mil. lbs.	404 mil. lbs.	+1.0
Vegetable Receipts	$65.4 M	$61.4 M	-6.1
Horticulture & Nursery	$44.7 M	$46.7 M	+4.5
Honey Production	5.0 mil. lbs.	4.6 mil. lbs.	-8.0
Cattle numbers	778,000 head	748,000 head	-4.0
Pig numbers	260,000 head	254,000 head	-2.0
Sheep numbers	61,000 head	60,000 head	-2.0
Wheat production	114,000 t	169,000 t	+48.2
Barley production	189,000 t	185,000 t	-2.1
Canola production	57,000 t	73,000 t	+28.1

Regional Extension Services

Peace River Region

Agriculture in the Peace River Region is dominated by cereal and oilseed crops with significant livestock, forage seed and honey industries.

Field Crops

Field crop production in 1983 was better than the previous year but depressed prices resulted in an overall shift from barley and oats to wheat and canola. The most significant change was from barley to canola with the latter becoming the most predominate crop in the region for the first time since 1979. Poor germinating conditions and heavy summer rains combined to reduce yields to lower than the previous year. Staff renewed efforts to improve local weed control programs when heavy rains brought on a serious outbreak of noxious weeds. The estimated total value of field crops produced was $73 million, up over the previous year, however, poor harvest conditions meant that most crops required drying.

Forage

Yields of forage crops were high and year-end supplies excellent. Harvesting was affected by July rains with some effect on quality especially in clovers. Less than half the 2500 hectares seeded to red and alsike clover was harvested.

Honey

Honey production averaged 79 kg per colony, 11 kg over the long-term average and 28 kg over the previous year.

Livestock

A decline in beef cow numbers slowed in 1983 due to abundant feed supplies and a strengthening of calf prices towards the end of the year. The dairy industry levelled off as overall sales increased by two per cent after dropping eight per cent in 1982. The ability of the local dairy plant to capture the Tumbler Ridge market helped sustain sales.

Sheep producers did not increase the size of their flocks but have resolved some of their shipping problems with co-operative trucking arrangements. Seven commercial hog producers went out of business. The B.C. Hog Marketing Commission initiated a system for delivering Peace River hogs to the coast.

Extension

More than 3,000 office and field consultations were handled by staff in addition to many inquiries handled by telephone. A total of 1,250 participants were involved in the many extension events organized by the staff including the Provincial Seed Fair, Strategies for Survival, workshop on microcomputers in agriculture, soil fertility, weed control and a Community Pasture Management seminar. A soil fertility home study course prepared by the ministry had 138 registrants.

Staff members were involved in 28 research and demonstration programs aimed at enhancing extension with relevant local information. An alternate crops trial which included field peas, lentils, faba beans, soybeans, flat peas, and forage legumes was begun in order to determine the adaptability of different crops and in particular their rate of nitrogen fixation. In the first year, field peas showed the most promise and soil tests were being taken to determine the effects on soil nitrogen. A trail to evaluate coated canola seed, which is promoted by the trade for advantages during early stages of growth and resistance to flea beetle, showed that due to dry conditions in May uncoated seed outperformed the coated seed. The first year of a faba bean forage trial gave a strong indication that this crop can be grown successfully in the region. A five year ARDSA-funded study on community pastures provided information on grazing management.

Community Pasture Development

A total of 145 farmers used the eight community pastures. This accounted for 34,667 Animal Unit Months (a.u.m.) of the 87,000 a.u.m.'s of Crown land grazing recorded in the Peace River Range District.

Central Region

Agriculture in the Central Region has undergone a year of difficult adjustment. Financial demands caused liquidation of 15 to 20 per cent of the cow herds in the region which meant many grazing areas were not utilized to full potential, resulting in reduced farm revenues for some operators. The dry spring and wet summer promoted good cereal and pasture production but conditions less than ideal for storing feed as dry hay. The acreage of cereals in the Vanderhoof district has increased with the majority harvested as silage but some 5500 tonnes of barley was produced and sold locally. Oilseed crops were also grown in volume for the first time in recent history.

Extension

Increased land clearing generated the need to develop extension packages that dealt with land development for agriculture.

An active fair program at Prince George, Vanderhoof, Smithers, and Terrace attracted over 950 requests for scientific literature and consultation. Young people responded in record numbers to the 4-H program with 869 members and 233 leaders organized into 62 clubs. This represents a 19 per cent increase over the previous year.

Demands on extension staff continued to increase as the four district offices responded to 5,810 phone calls, 4,221 office consultations and 4,311 farm visits.

The field crop extension committee continued to coordinate programs designed to evaluate crop adaptation and production on cereal demonstration sites at McBride and Smithers, forage variety trails at Ootsa Lake, Engen, McBride and Quesnel, forage seed trails at Ootsa Lake, Engen and Quesnel, silage corn trials at Prince George and Smithers and forage, cereal and flower seed trails in the Stikine Valley and on the Queen Charlotte Islands. These trials add to the knowledge base and aid in the formulation of field crops and horticultural recommendations for various locations. Field days were held at all sites to explain the results.

Horticulture

Variety and density trials for horticulture cole crops were conducted at Prince George and Smithers. Valuable information was gained about the density of planting, weed control, and variety selection for the specific growing locations. During 1983 there was approximately 175 hectares of vegetable production, primarily potatoes which were sold at local markets. A number of operators have reached the full commercial level and provide produce to wholesalers for a significant portion of the year. A successful horticulture and greenhouse short course was conducted in Prince George.

Livestock

Activities of the livestock extension committee centered on problems producers were facing with an emphasis on the management and non-capital changes that would influence net profit.

In the Smithers District a special record of performance program was initiated with a number of farmers working with ministry staff to record weight gains and evaluate performance on 1,700 calves.

Land-Use Development

The first of some 60,000 hectares of Crown land for agricultural development in the Prince George area was sold by public auction. This brought in new farm operators and allowed a number of existing farmers to expand their land base.

Land-use planning exercises were concluded in the Quesnel and Vanderhoof districts which will influence the pattern of agricultural settlement for the long term.

Thompson-Cariboo Region

It has been a difficult year for the cattle ranchers of the Thompson-Cariboo as market prices did not keep pace with increased production costs. About 45 per cent of the province's beef cows are in this region which encompasses large grasslands that are foraged by cattle during the summer grazing season. Increased pressure from recreational forces on these range resources is forcing ranchers to make greater use of cultivated crops which provide winter feed for these cattle.

Extension

A calf pre-conditioning workshop was organized by staff members working in co-operation with the B.C. Livestock Producers' Co-operative Association and the B.C. Cattlemen's Association.

Serious mineral deficiencies were identified in livestock north of Kamloops and staff developed a program of feed and blood testing to determine minerals and proportions needed.

Considerable interest in irrigated pasture has developed as a result of trials conducted the past three years at Tranquille Farm. The trials demonstrated management techniques that give good financial returns by feeding yearling steers on irrigated pasture.

Interest in double-cropping barley for silage production continues to increase. Staff worked with producers to develop an estimated cost of production sheet for this crop. Alfalfa variety trials aimed at identifying a variety with resistance to both verticillium wilt and bacterial wilt continued.

Horticulture crops were more popular as growers' success and confidence

improved with production and marketing advice made available by ministry staff in the region.

Livestock

The beef cattle industry remained under extreme financial pressure and a number of ranches went into receivership. There was a modest rise in feeder cattle prices but it did little to offset increased costs of production.

Field Crops

The major crop in the region is forage used for winter feeding of beef cattle. Cereals, used in rotation, are harvested as forage. Barley, double-cropped for silage, is replacing silage corn in limited amounts as management is simpler and the crop can be irrigated with wheelmove equipment.

Horticulture

Large increases in production of strawberry and raspberry crops were assisted by producer acceptance of cultural methods introduced at workshops conducted by ministry staff. An increase in stone-fruit plantings continued in the Spences Bridge area.

Okanagan-Kootenay Region

Abnormal weather caused damage in many areas of the region during the year. Tree fruits and grapes sustained winter injury and heavy September frosts affected grape quality in low-lying areas in the south. A severe hailstorm July 24 ravaged the East Kelowna, Belgo-Rutland and Glenmore areas destroying one-third of the apple crop worth several million dollars. Some extension staff were assigned temporarily to the Crop Insurance Branch to process claims. A record cold snap in late December caused major bud damage to soft fruits in the Oyama and Keremeos areas.

The peach crop matured earlier than normal and fruit softened before optimum maturity resulting in poor shelf life. The market collapsed and returns to producers may not exceed two cents per pound.

The yield and quality of most other tree fruits ranged from good to excellent but many acreages of cherries are being removed as a result of the bad year. Heavy rains caused cherry splitting and brown rot and the fruit that was marketable brought poor prices. This was the third year in a row for cherry crop failure.

Extension

All extension activities received record participation. The past year saw the development of comprehensive extension plans reflecting five-year measurable goals and marketing concerns--an approach expected to improve producer knowledge, efficiency and returns and hopefully reduce dependency on financial programs.

Ministry staff co-operated with six nurseries to certify over 350,000 fruit trees as being defect-free.

The provincial grape specialist initiated grape variety and cultural method evaluation programs in the Fraser Valley and on Vancouver Island and it was determined that the development of a grape industry and an estate winery in these areas looks promising. In co-operation with Agriculture Canada, the grape specialist compiled a comprehensive profile of climate and soils in B.C. which will be a valuable asset in determining site suitability for horticultural crops.

More than 400 producers attended a horticultural forum organized by the ministry in co-operation with the B. C. Fruit Growers' Assocation. A symposium on horticulture technology attracted 200 producers interested in technical presentations relating to tree fruit varieties. The Pacific Northwest Training Conference was hosted by B.C. when 31 senior tree fruit extension agents from the United States met with 23 ministry agriculturists to expand their knowledge of orchard design, orchard intensification and tree fruit nutrition.

Each year, Okanagan forage producers lose over $9 million due to poor harvesting and storing procedures, therefore, a comprehensive region-wide extension program was initiated.

A dairy forage competition and tour was attended by 130 Okanagan farmers.

South Coastal Region

All districts in the region reported above average precipitation in 1983 making it the fourth consecutive year with unusually wet weather. Rainfall caused flooding in July and staff members spent time assessing problems and counselling growers in affected areas.

Livestock

A good forage year provided forages and good quality corn silage reducing reliance on imported forage. The dairy sector was affected by low fluid milk consumption while the number of dairy producers was expected to drop due to bankruptcies and dispersal sales including Colony Farm. A veal processing plant opened in Pitt Meadows and producers were actively promoting local veal.

Horticulture

Fresh market vegetable growers had a better year in 1983 than in the previous two years but heavy rains in summer flooded fresh and process crops causing losses as well as delays in further plantings. Acreage of most process vegetables was down from 1982 and prices for cole crops and corn dropped. Corn yields were good but peas and beans were below average.

Growers on Vancouver Island over produced for traditional markets and produce was shipped as far east as Regina. Since the near collapse of the processing industry in western Washington, competition from U.S. growers has increased. Mushroom production moved up to 13.1 million kg but prices were lower.

Raspberry production set a new record with yields totalling 13.9 million kg valued at $14.6 million, however, processing prices equalled only three-quarters of the costs of production. Total volume of raspberries available in North America is 33 million kilograms while maximum estimated consumption is 19 million. A new fungus root rot was being found on an increasing number of farms. The strawberry crop totalled 8.9 million kg, with a farm-gate value of $10.2 million. Adverse weather caused lower yields. Both blueberry and cranberry production continued to expand. The cranberry crop was up 19 per cent, higher than the previous year with 8.2 million kg harvested from 485 hectares. Blueberry production amounted to 4.9 million kg on 1,000 hectares.

Extension

Increased demands were placed on the region's specialists as commercial producers wrestled with fiscal as well as production problems. The difficult economic situation also resulted in an increase in farm calls, and office and telephone requests for advice from people developing small acreages and home gardens. The five district agriculturists and the field crops specialist made almost 1,000 farm visits and handled more than 8,000 office and telephone consultations.

Both horticulturists and agriculturists spent part of their time on 44 applied research and demonstration projects to keep growers informed of new varieties and techniques. The number of extension events, such as the Dairy Producers' Short Course attended by 460 farmers, increased in 1983 with many segments of production and management being discussed with producers.

Special Projects Branch

The Special Projects Branch has been active in planning and program development especially in horticulture. The director worked closely with the tree fruit industry on programs and policies related to the development of viable production plans. Considerable time was spent on the review by the British Columbia Marketing Board of the British Columbia Tree Fruit Marketing Board policies.

Two major concerns emerged as the grape and wine policy was reviewed: The red wine surplus was a serious problem. New grape acreage has not been planted for a number of years which undermines the objective of basing the wine industry on B.C. grapes.

The director served the ministry executive in an advisory capacity regarding berry, vegetable, nursery and greenhouse crop production. Particular attention was devoted to outlook reports and statistics.

Some time was spent on urban horticulture. A three-day judging school for horticultural crops was well-attended at Okanagan College in Vernon. The allotment garden program continued as a self-managed program with an excellent record of success in Victoria and Vancouver.

The director served on the board of the Horticultural Centre of the Pacific. The leased 110 acres were being developed during 1983. The first project was a demonstration garden where a range of annuals, perennials and vegetables were grown. A central patio area, walkways and greenhouse were constructed. The centre is now served by an underground watering system, over 1,000 feet of graded pathways and electrical power. An educational project was developed in co-operation with Camosun College but funds are needed to get the program underway.

The director was appointed a member of the Landscape Horticulture Advisory Committee at the B.C. Institute of Technology.

Farm Labor

The Provincial Agricultural Employment Development Committee met in December with sessions being held on workers compensation, unemployment insurance, the labor code and education. The provincial Worker's Compensation Board agreed to forego compulsory coverage of all farm workers in place of a trial one-year farm safety education program which began in April, 1983. The program,

conducted primarily by the B.C. Federation of Agriculture, was to be reviewed for its effectiveness over the year, followed by a decision to impose compulsory coverage or extend the education program.

In an extra effort to stress farm safety practices, ministry publications emphasized safety procedures to be followed particularly in pesticide use.

Specialist and Regulatory Services

Crop Protection Branch

The Crop Protection Branch provides current pest control information, develops ecologically sound methods of insect, plant and vertebrate pest management and works to prevent the introduction and spread of pests into the province.

Diagnostic

Diagnostic laboratories at Cloverdale, Victoria and Summerland identified plant diseases and insects from 2,000 submitted samples while the nematode laboratory at Cloverdale analyzed more than 800 soil and root samples.

Vegetables

Loss of lettuce from lettuce aphid in the Cloverdale area was prevented by a government monitoring service which provided growers with information on the time to apply recommended sprays. In 1982, the pest caused the destruction of one-quarter of the lettuce crop in the area.

Potato fields in the Lower Mainland were monitored for late blight and insect pests as part of an integrated pest management program aimed at decreasing pesticide use and increasing control.

Field tests at Agassiz provided recommendations for the control of grey mold of snap bean. Trials at Cloverdale and Abbotsford provided data required for registration of metalaxyl-mancozeb (Ridomil MZ) for downy mildew of onion and cole crops.

Tree Fruits

Heavy rains during cherry harvest in the Okanagan Valley caused extensive fruit splitting which was followed by brown rot and botrytis fruit rots. Brown rot also caused severe losses to peach and apricot. Rainy weather in February and March contributed to the worst outbreak of peach leaf curl in memory. Peach boron toxicity was identified in several Okanagan orchards and the results of soil and leaf sample analysis lead to new recommendations for boron use in 1984.

Robins and other birds caused moderate damage to cherry crops in the Okanagan Valley. Orchard mice (voles) caused serious bark damage to fruit trees in many orchards and deer and elk caused moderate to severe damage in Okanagan and West Kootenay orchards.

Berries

Red stele of strawberry was a problem in the heavy soils of Richmond and Delta. Inadequate drainage in many fields has led to red stele infections even in the tolerant variety Totem. The variety, Benton, is more tolerant to red stele but produces only moderate quality fruit.

Crown gall of raspberries, which was discovered on imported, certified planting stock and in established plantings is under investigation. Methyl bromide was used to fumigate planting sites on three farms in the Abbotsford area as a step towards establishing a provincial source of disease-free raspberry planting stock.

Mummy berry of blueberry caused significant crop losses for new growers who failed to recognize the disease and for growers in parts of Richmond where aerial application of triforine (Funginex) was prohibited. Improved control practices have lead to a reduction in botrytis bunch rot of grape in the Okanagan Valley. Starlings, robins and other bird species caused severe losses to blueberry crops in the Lower Fraser Valley and to grapes in the Southern Interior.

Field Crops

Alfalfa verticillium wilt is widely distributed in southern B.C. and most alfalfa fields south of Quesnel have the disease. Alfalfa variety trials showed that Vertus and Sverre, two European alfalfa varieties, have the best level of resistance to verticillium wilt but they were shown to be susceptible to bacterial wilt.

Ornamentals

Under the pear trellis rust certification program, funded by the ministry and the B.C. Nursery Trades Association, 165 infected home garden junipers in the Lower Fraser Valley were removed. A report on a ten-year study on pear trellis rust in the Lower Fraser Valley and Vancouver Island has been accepted for publication by a scientific journal. Results of the study will form the basis of a more rational juniper certification program.

D.A.T.E.

The D.A.T.E. (Demonstration of Agricultural Technology and Economics) program continued in 1983 to fund projects aimed at demonstrating new advances in agricultural technology. Several projects, funded earlier under the program, have matured and have continued in one way or another to receive financial support and are proving their value to the industry.

Program Highlights:

A control program for lettuce aphid was developed and implemented. As a result, no lettuce was rejected because of aphid infestation this year while in 1982 growers lost half the crop ($1 million) due to this pest.

During the past few years, the range-seeding program, which began as a DATE project in 1975, resulted in the reseeding of 30,000 acres. Two range-seeding units, developed by the ministry, are now available to ranchers to seed depleted rangeland under a fee for service contract.

A DATE project demonstrated the use of records of performance by producers for developing livestock management systems. It was proved that a 20 per cent increase in weaning weights over a five-year period is an achievable goal for most management systems.

A project to demonstrate to greenhouse vegetable growers that mites and whiteflies can be controlled with biological agents has resulted in the establishment of a private firm, Applied Bio-Nomics, which now produces biological control agents for growers across Canada and in the U.S.

About 1,150 farmers have used video-tapes to help improve their production techniques. The tapes were made available in two ministry offices and were also used at field days and seminars.

A vegetable harvest aid, designed by the Engineering Branch, reduces the harvesting time for lettuce cauliflower, cabbage and broccoli.

Engineering Branch

The Engineering Branch provides design and advisory service to farmers and ranchers in the province. The advisory service covers most aspects of on-farm engineering needs including drainage, irrigation, farm structures, mechanization, waste management and land and range development. Advisory services are provided through direct producer consultation, short courses, field days, engineering plans, publications, and press releases. Branch activities in 1983 emphasized applied research and demonstration projects.

Drainage

The scope of the farmland drainage advisory service includes a broad variety of special projects, extention programs and design services. Branch staff developed and promoted drainage system design and installation standards, and provided design services to areas of the province not adequately served by the private sector.

Provincial funding made available in early 1983 through the Employment Development Program resulted in a significant commitment by the branch on the implementation of regional water management systems administered by A.R.D.A. Branch staff served as expediters in the process by providing liaison between farm groups, municipalities and the funding agency.

Irrigation

High energy costs and a shortage of water, along with the potential for improved production has renewed interest in trickle irrigation on the part of orchardists and small fruit growers. Trials were underway to demonstrate system design incorporating fertilizers and nematocide application. An initiative was underway to formulate and finance a program for reconstruction of water storage dams used by Interior beef producers.

Farm Structures

The farm structures advisory service continues to be one of the most popular branch programs with several new plans under development. For the first time conceptual plans will be tried instead of complete structural plans. This will require producers and contractors to make greater use of private structural engineering and drafting firms. Greater emphasis was placed on improving the environment in intensive livestock housing by encouraging co-operation among equipment suppliers, veterinarians, feed sale

representatives and Engineering Branch staff. Field days and demonstration projects on smooth high-tensile wire fencing created a demand for branch expertise in this area.

Waste Management

Increase in the size and number of intensive livestock operations has caused severe environmental problems in the densely populated areas of the Fraser Valley and some regions of the Okanagan. Maintaining the credibility and effectiveness of the Agricultural Environmental Services Program and the Greenzone method of siting farm buildings continued to be a priority.

The branch continued to direct its efforts to developing manure handling systems to minimize pollution.

Mechanization

The branch's mechanization advisory service developed a vegetable harvesting aide for lettuce, cauliflower, cabbage and broccoli. Field trials with the tractor-mounted conveyor system indicated a substantial saving in labor.

In conjunction with district Regional Extension Service Staff, the branch demonstrated improvement of a typical organic wetland in the Interior of B.C.

The branch received the Industrial Achievement Award from the Pacific Northwest Region of the American Society of Agricultural Engineers for its work in developing range-seeding equipment. Some 13,600 acres of range and pasture have been seeded with the two twelve-foot seeding units. Private contractors with crawler tractors do the actual day-to-day seeding work. Three major extension and demonstration events were held with the range equipment. One event in Washington State explored potential export markets for the equipment which was designed and built in British Columbia.

Marketing Branch

Emphasis was placed on market development activities rather than on promotion and information. There has been a determined effort on the part of the branch to assist B.C. food producers and processors to improve their market access through liaison with the industry and to obtain feedback on customer requirements. As part of this thrust, the ministry discussed programming with heads of major retail organizations, the processing industry and producer marketing agencies.

International experts on food marketing addressed a conference held in February in Vancouver for the B.C. food industry. The intent was to closely link communications between all elements in the food production and marketing chain including producers, wholesalers, processors and retailers. The branch director was named the province's representative on the advisory council to Canagrex, a new federal Crown corporation formed to develop export markets for Canadian agricultural products.

In co-operation with the Farm Products Finance Branch, the branch established guidelines for the Food Industry Development Project used to assist in the development of marketing activities within the B.C. food sector.

Marketing opportunities were explored with the British food retailers who visited the province during 1983 The Minister made a trip to Europe in an effort to develop more export markets.

Market Research and Analysis

The Market Research and Analysis unit undertook marketing extension work with the livestock industry, particularly veal producers and feedlot operators. A study of the factors affecting the price of fed cattle in B.C. was carried out during the year and a report will be published. B.C. veal production has increased and the branch worked with the veal industry and a new processor to market the product.

A trial regional price information base carried out in Prince George was well received by vegetable producers and it is anticipated that this method of market information dissemination will be expanded to other areas of the province.

An asparagus market extension program began during 1983..Since the closure of the asparagus processing plant in Summerland, emphasis was placed on fresh

market asparagus. One of the opportunities identified for Vancouver Island vegetable growers was for parsnip marketing. As a result the branch assisted in the production of sales materials to promote the product.

Market Development

In co-operation with the food service industry, the branch expanded contact between the B.C. Purchasing Commission and food processors. A seminar, sponsored by the branch, was aimed at encouraging processors to design products specifically for the food service industry. The branch sponsored a seminar for provincial commodity groups and their agencies focusing on the need for market research. The branch encouraged commodity groups to co-operate in the development of point of sale materials and promotional packages.

Market Regulation

The branch regulates the agriculture product markets through the Agricultural Produce Grading Act and the Natural Products Marketing (B.C.) Act. The three national marketing plans (eggs, chicken, turkey) continue to require considerable monitoring by the branch.

Soils Branch

The soils branch develops and implements programs which ensure the protection, maintenance, development and effective use of agricultural soils.

Advisory Services

Branch staff, located in Prince George, Kelowna, and Cloverdale, advised the agricultural industry and other agencies on aspects of soil and water management. Farm drainage plans were prepared for 12 properties throughout the province and 10 plans prepared by contractors were checked and corrected where necessary.

A soil survey and agricultural capability assessment was conducted on Malcolm Island. Staff concluded that adverse climate restricts the range of crops that can be grown.

Branch specialists determined that a growth problem in an apple orchard near Vernon was due to excess boron. Extension efforts to alert growers to problems resulting from over use of boron will be initiated. Advice was given on soils and irrigation practices relative to five proposed or on-going sewage

effluent irrigation projects. The Soil Management Handbook for the Fraser Valley was written to assist extension staff and soils and crops specialists in using and interpreting soils survey maps and reports.

Demonstration and Investigation

The Soils Branch initiated or participated in projects to demonstrate aspects of soil and water management and to investigate soil and water related concerns. In the Central Interior region, the soils specialist conducted four projects to investigate aspects of soil acidity and liming. In one experiment there was a yield response of barley to liming.

The Boundary Bay Water Management Project is a long-term project designed to determine the effects of drainage and sub-irrigation on soil characteristics and crop growth. Some important findings to date were that:

a) drainage allowed the soils to be worked 30 days sooner than where the soil is not drained,
b) earthworm populations were 20 times higher where drainage has been installed,
c) by introducing water into the drain lines, supplemental water was supplied to crops during low rainfall summer months.

Specialists determined that an interceptor drainage system is very effective in controlling surface runoff and soil erosion on sloping lands in the Fraser Valley. Soil loss during the winter months was 0.4 tonnes per hectare where drains were installed compared tc over 40 tonnes per hectare on an undrained area.

Soil, Feed and Tissue Testing Laboratory

Soil specialist Dr. W. van Lierop commenced duties as Laboratory Supervisor in 1983. The soils section of the laboratory received 8,400 samples during the year of which 71 per cent were from growers requesting fertilizer and lime recommendations and 29 per cent were in support of research and diagnostic work related to soil fertility and plant nutrition.

The animal feed and plant tissue section of the laboratory received 5,850 samples of which 34 per cent were from growers and producers and 66 per cent were in support of project and diagnostic work related to soil fertility, plant nutrition and animal nutrition.

Technical Services to the Provincial Agricultural Land Commission

Staff provided technical services to the provincial Agricultural Land Commission on soils, agricultural capability, land use and related matters. As a result of applications to the commission for exclusion from, inclusion in, or non-agricultural use within the Agricultural Land Reserve, specialists carried out 39 on-site inspections and submitted reports to the commission.

As part of fine-tuning the ALR boundaries, staff conducted nine area reviews in various parts of the province. The branch assisted the commission with administration of the Soil Conservation Act. Twenty-seven on-site inspections were carried out and reports submitted relative to soil removal from or placement of fill on land within the Agricultural Land Reserve.

Veterinary Branch

The Veterinary Branch works to control the spread of disease, provides a diagnostic service to veterinarians and livestock and poultry owners as well as information on the treatment and prevention of disease. It controls the distribution of veterinary drugs and biologics, monitors the sale and distribution of meat and meat products and provides a brand inspection service. The branch licenses sale yard operators and auctioneers, medicated feed and veterinary drug outlets, and livestock and hide dealers.

Meat Inspection

A new plant at Pitt Meadows qualified for full Federal Inspection in June. There are now four plants in the Fraser Valley, two of which kill and process poultry and three plants on Vancouver Island under the Federal/Provincial Meat Inspection system. Inspection fees were raised on April 1, from $7.10 per hour for regular hours and $8.55 per hour for premium hours to $7.50 and $9 respectively.

In addition to the seven plants under Federal/Provincial Domestic inspection in the province there are six red meat, one rabbit and eight poultry plants as well as 22 processing plants under Full Federal Inspection.

Animal Health

Field observations and specimen examinations at the Veterinary Pathology Laboratory did not reveal any serious animal or poultry diseases. The usual respiratory diseases of cattle have been present in the Interior but there was a reduction in the incidence of calf scours possibly due to better spring weather conditions.

Granular venereal disease (Ureaplasma sp.) was identified on several dairy premises in the Fraser Valley. Corrective techniques were used with artificial insemination and after an initial flurry of cases in the late summer the incidence appeared to decline. An extension bulletin on the subject was distributed to the industry and arrangements for the identification of this organism, which is difficult to grow and type, was made with Agriculture Canada.

Several meetings were held during the year dealing with problems of deficiencies of trace minerals in cattle resulting in the publication of bulletins outlining the problem and offering recommendations.

Inspection for diseased and defective animals was reduced slightly with a concurrent reduction in the number of sales. At uninspected yards, however,even though the nu;mber of sales remained consistent, there was about a 20 per cent reduction in the number of animals consigned to the sales. Due to the lack of available professional staff in the Fraser Valley, the bulk of the inspections were done by trained lay personnel. A total of 1,721 cattle, sheep, swine and goats were either ordered slaughtered or rejected from the sales and 24,530 were sold conditionally for a wide variety of reasons. Of these 19,000 were mature cows which were sold for meat purposes only. The total number of sales inspected was 347 involving 121,500 animals.

Veterinary Pathology Laboratory

There has been a continued decrease in the number of companion animal (dogs, cats and horses) submissions received at the laboratory.

A considerable amount of work was carried out at the laboratory and in the field in co-operation with Wildlife Branch staff concerning the Big Horn Sheep die-off in the East Kootenays. Although the exact cause was not ascertained, it was evident that it was not caused by lateral transmissions from disease conditions endemic in the neighboring cattle and domestic sheep populations.

The laboratory co-operated with our field staff and other branch staff in the examination of specimens involving the Swine Herd Health Policy and the Somatic Cell Count--Mastitis Control program of the Dairy Branch.

A poultry Broiler Breeder Health program was initiated in 1983 involving improved health-management system. A laboratory was established at the Poultry Test Station with funding from the B.C. Chicken Marketing Board which also employed two technicians to whose main duties are the bacteriological examination of day-old chicks and the serological testing to detect antibodies in the response to the vaccination program.

Production Services

Apiculture Branch

The Apiculture Branch provides specialist service to honey producers, processing and marketing firms, equipment suppliers and beekeeper organizations. Advice on planned pollination programs is provided to tree fruit, berry and legume seed producers. A staff of part-time apiary inspectors is maintained to provide advice, inspect hives and carry out the intent of the Bee Act. Control of bee disease is a major responsibility.

Crop Review

The total honey crop is estimated at 2,325 tonnes, a slight increase over 1982. There were 56,520 hives and 5,890 beekeepers in the province.

Estimated value of the honey crop was $4,754,500. Wholesale prices for honey averaged $1.39/kg while honey at the farm gate brought $2.53/kg. The value of related products amounted to $175,000 for beeswax, $150,000 for pollen, and $175,000 for pollination hive rental. A package bee and queen production industry was initiated with sales of $32,000 in package bees, queens and nucleus hives.

Extension and Applied Research

Field days and courses were conducted by branch staff in many areas of the province. Several hundred people attended the Fraser Valley Field Day at the Poultry Test Station, Clearbrook. A large number of B.C. beekeepers from the Peace River area attended a field day at the Beaverlodge Research Station, Alberta, Staff prepared informational publications that were sent to all registered beekeepers.

Considerable effort went into planning and organizing the Malaspina College Apiculture Training Course and a week-long Beemasters Course at Simon Fraser University both scheduled for 1984.

Staff investigated methods of overwintering queens produced in British Columbia and were active in pollination studies on a test orchard where production and quality increased significantly. Stock maintenance and selection continued at Powell River and Vernon in a honeybee stock improvement project. Staff members conducted a "hands on" course on queen honeybee production and a production analysis relating to queen production was prepared. In a package bee production project, staff worked with Simon Fraser University in the evaluation of hives producing bees for packaging in order to determine their usefulness as pollinating and honey production units later in the season.

Regulations

Inspection staff examined over 6,000 hives in 1983 for disease. The incidence of American foulbrood disease was 2.1 per cent, down from 1982. A serious disease, American foulbrood remains at a manageable level due in part to creditable inspection and extension programs. In addition, the branch inspected 7,000 brood chambers of combs unoccupied by bees. Nine per cent of these combs contained American Foulbrood disease.

Field Branch Inspection

Discussions continued during 1983 with representatives of B.C. Cattlemen's Association in respect to the efficiency and effectiveness of the brand inspection program. Agreement was reached to segregate the regulatory responsibilities and to assign them to a newly formed Regulatory Division under the Veterinary Branch. At year-end there were only eight full-time inspectors and 35 deputies employed in the field brand inspection program.

Regulatory Division

The Regulatory Division maintained the cattle and horse brand register and issued livestock dealer, slaughterhouse and hide dealer licenses. The branch also administered the regulatory aspects of the Livestock Brand Act, Cattle Horn Act, Livestock Lien Act and the Livestock Industry Act.

Dairy Branch

The number of approved dairy farm production units at year-end was down by 33 farms to 1,093, and milk production decreased by three per cent. The provincial dairy herd decreased by 4,000 head to 127,000 dairy cows and heifers. There were 40 dairy plants licenced under the Milk Industry Act.

Production

Fluid milk sales in Milk Board areas decreased by 1.8 per cent to 294.6 million litres and butter production was down 20 per cent to 1,929 tonnes. Cheddar cheese production was up 25 per cent to 4,273 tonnes because Fraser Valley Milk Producers' Co-operative Association diverted milk to cheese production from butter and powder production. Production of ice cream mix was up slightly to 18,568 kilolitres.

Dairying continues to be the leading commodity sector of the agricultural industry in terms of real income. Farm cash receipts from the sale of milk and cream were estimated at $216 million. The price of milk used in fluid

retail sales remained unchanged at $54.78 per hectolitre. The butterfat differential was 46 cents for each point change at year-end. The target price for industrial milk was $42.80 per hectolitre from August 1983. The industrial milk subsidy remained at $6.03 per hectolitre.

Milk Quality

Branch staff promote and protect public health by ensuring that milk and milk products are of the highest quality. In 1983, the dairy laboratory carried out 16,533 bacteriological analysis on 7,027 farm milk samples and 2,015 finished milk product samples. In addition, there were 3,830 samples analysed for antibiotic contamination, 3,245 samples for extraneous water and 12,753 samples for somatic cell counts. The annual survey for contaminants in milk again proved negative. The field staff made 1,459 official farm inspections as well as 811 inspections related to quality problems, milk equipment and construction matters. Dairy plant and depot inspections and milk transportation inspections totalled 198.

Extension

The Mastitis Control Program was the major extension activity of the branch. There were 210 herds enrolled in the program and the laboratory analysed 126,531 cow samples. Seminars were held for participating producers and a mastitis manual was developed. The Udder Health Committee continued under the guidance of the dairy specialists.

A practical milk grading session was featured in a series of 12 seminars held throughout the province for Tank Milk Receivers.

Dairy Specialists and Laboratory Scientists organized and presented a one-day seminar on quality control to 30 dairy industry representatives.

A variety of seminars were prepared for and presented to Dairy Plant Workers both at their place of work and at the dairy laboratory. Thirty-three consumer complaints were handled by field staff. A number of which required the assistance of the laboratory.

In recognition of dairymen who had consistently shipped superior quality milk and who had maintained their farm premises within full compliance of requirements, field staff selected 1,980 dairy producers throughout the province for receipt of the coveted Certificate of Excellence Award.

Service Activities

The major branch service activity is to provide compositional analyses for the Dairy Herd Improvement Program, the Record of Performance Program and the Canadian Goat Society. The laboratory processed 334,591 samples for these three milk recording programs.

The laboratory analysed 27,405 composite milk samples. These samples are scheduled to arrive at the laboratory twice each month where compositional analyses are performed to facilitate the calculation of producer payments.

Greater Vancouver Public Health Units submitted 1,388 soft ice cream samples for coliform analysis up to the end of October when staff shortages at the laboratory resulted in cancellation of the service.

Farmland Resources Branch

The Farmland Resources Branch continued to serve as the ministry's clearing house for all land-use planning, resource management, environmental impact and property management issues.

Crown Land Plans

Many inter-agency planning projects initiated by the Ministry of Lands, Parks and Housing prior to 1983 were completed. Three of the four deferred area planning projects in the Peace River designated for agricultural development 16 000 hectares of Crown land. The McMurdo Benches Plan provided for the establishment of a 300-hectare community pasture near Parsons. As a result of the deferred area plan program, several areas not originally within the Agricultural Land Reserve have been proposed for inclusion.

The Southern Rocky Mountain Trench Crown land concept plan report was completed in June. As a follow-up, branch staff will identify Crown lands suitable for agricultural development prior to the five-year review.

Watershed Plans

The Ministry of Environment embarked on a program to prepare strategic plans to integrate the policies and objectives for the air, water, fish, wildlife and marine resources in each of 39 major watershed basins. The first of these plans, the Nicola Basin, was completed, and reviewed by the branch. The plan recommended that the dam at the outlet of Nicola Lake be replaced to provide increased storage and provide additional water for irrigation. This will give ranchers the opportunity to convert restricted water licences .The branch is providing input to three additional plans: the Fraser-Delta, Similkameen and Thompson-Bonaparte.

Environmental Impact Assessment

The B.C. Utilities Commission Report on the Peace River Site C Project was submitted to the provincial government in May. The report recommended that the project was technically possible but not required before 1990. The

commission supported the ministry's claim that a social value exists for agricultural lands, and recommended that compensation equal to the agricultural loss on Crown land, $18.6 million, be paid to the government and used to fund agricultural programs in the region.

The number of energy, transportation, mining and industrial projects to be reviewed was down from previous years due to the economic recession in the mining industry . The recession also drastically affected B.C. Hydro's systems plan. Plans for the Murphy/Keenleyside hydro-electric project were being reviewed. The branch reviewed reports on the Alcan, Kemano Completion hydro-electric and smelter project.

In anticipation of application by Alcan for a water license the ministry completed a review of regional water requirements for the Bulkley-Nechaka area

Reports and Publications

The final draft of the East Kootenay Beef Industry - A Plan for Expansion report was completed. The report prepared for the B.C. Beef Industry Development Council describes the existing situation of the beef industry and the requirements for expansion. The ARDSA report on Opportunities and Risks Presented to Agriculture by Linear Developments provided an overview of the extent of transmission lines and pipelines and their effects on agriculture. The report recommendations will be useful in project selection, design and construction to minimize harmful impacts.

Property Taxation

The branch provided the B.C. Assessment Authority with proposals for amendments to the Farm Classification Standards to clarify eligibility for farm class and for developing farm status. Staff reviewed the Ministry of Finance proposal for a variable mill rate now in effect for calculation of property taxes to ensure that the proposed system would not dramatically affect the agricultural sector.

Greenzone Program

In many areas of the province local governments are faced with public pressure to regulate and even prohibit intensive agriculture. A new Greenzone Co-ordinator was appointed to direct the program objective of ensuring that opportunities for farm operation and new farm development are maintained. Changes to the Municipal Act that will clarify the extent and detail of local bylaws regulating intensive agriculture are being proposed.

Agricultural Land Commission Act

Applications Review--Briefings for the Minister were prepared on applications under the Agricultural Land Commission Act, including applications by local

government or the commission to amend ALR boundaries by inclusion or exclusion of land, applications by owners to have land included, and finally, requests by owners for leave to appeal to the Environment and Land Use Committee of Cabinet.

Applications for inclusion were up significantly, particularly to include Crown lands designated by the Ministry of Lands, Parks and Housing for disposition for agricultural development. Inclusion requests made or approved in 1983 amounted to over 11 600 ha of Crown land.

ALR Fine-Tuning--The ALR Fine-Tuning Program is a joint effort with the provincial Agricultural Land Commission, and Surveys and Resource Mapping Branch of the Ministry of Environment to review ALR boundaries. The soil and land evaluation survey on Vancouver Island was completed to just south of Courtenay. A soils report for the Duncan-Nanaimo area, based on the 1980/81 survey, has been prepared and is ready for publication. Climate capability maps for agriculture for the Bulkley-Nechako, Queen Charlotte Islands, Chetwynd and Upper Kispiox areas were completed. Maps and reports are being finalized for the Vancouver Island Soil Moisture Study and Hydrology Study. Data for the West Chilcotin Climate Network Study has been collected and is being analyzed for the preparation of mapping climatic capability for agriculture maps.

Property Management Program

The Property Management Program on behalf of the provincial Agricultural Land Commission administers 134 leases on land owned by various government agencies. Program revenues have increased as market level rents are being established. In 1983, fourteen opportunities to lease received positive response. Steeples Ranch was converted from a relief pasture for Crown range operated by the ministry to a leasehold for beef ranching. One lessee exercised his purchase options.

Field and Special Crops Branch

The Field and Special Crops Branch provided technical service to guide the industry in production of a wide range of commercial crops. The branch conducted applied research, development and extension activities in crop production, range management and weed control. It administered the Seed Grower Act, the Seed Potato Act and the Weed Control Act. Producer demand for information from agricultural research remained high as reflected by the number of applied research and demonstration projects conducted during the year.

Cereal and Oilseed

Total production of cereals and oilseeds increased despite adverse conditions. Estimates of 1983 production are:

wheat - 185 129 tonnes
oats - 58 129 tonnes
barley - 199 357 tonnes
canola - 74 092 tonnes
rye - 22 715 tonnes

About 80 per cent of the crop required aeration or artificial drying, due to inclement harvest weather. The cash farm value of cereal and oilseed production is in excess of $81 million. Ninety per cent was produced in the Peace River.

Branch specialists conducted several cereal and oilseed variety trials to select superior varieties. B.C. Select Seed Growers continued to produce pedigreed seed. There were 1 711 hectares of pedigreed cereals produced in 1983, down slightly from 1982.

Forage Seed

There were 2 934 hectares in pedigreed forage seed production with creeping red fescue the major species. The branch distributed pedigreed forage seed on behalf of the Canadian Forage Seed Project. Boreal creeping red fescue was distributed to seed growers and the seed trade across western Canada.

Branch specialists monitored test plots of the B.C. Seed Crop Evaluation Project funded jointly by the ministry, Agriculture Canada and the seed trade. Valuable information on the potential for forage seed production was obtained.

Forage Crops

Total production of hay and silage was estimated to be 1 925 846 tonnes. This represents an increase of 215 112 tonnes over 1982. Prices of B.C.-produced hay ranged from about $50 to $125 per tonne depending upon source and quality. Imports of alfalfa hay from Washington State amounted to 142 209 tonnes valued at $22 million.

Verticillium wilt continues to be a major factor affecting longevity of alfalfa stands. Research toward the development of resistant varieties is continuing. Vertus and Trumpetor have a degree of wilt resistance, however, Vertus has proven to be susceptible to bacterial wilt, another serious disease of alfalfa.

Notable achievements of the B.C. Forage Council included a summary of all forage cultivar trials, completion of the B.C. Seed Crop Evaluation Project, and approval of the licensing of eight superior forage varieties.

The 30th Annual Grassland Competition was a popular event in the North Okanagan which attracted many producers and agri-business representatives. At Tranquille, a study of irrigated pastures evaluated the economics of beef and hay production and the advantages of feeding grain to livestock on irrigated pastures.

Silage Corn

The total area planted to field corn remained at 11 690 hectares. Average yields were estimated to be 13 tonnes of dry matter per hectare. In recent years, the ministry has widely promoted field corn because of its productive potential and nutritive value in beef and dairy rations. Selection and promotion of superior cultivars has greatly enhanced both yields and quality.

Potatoes

Production of commercial table and seed stock was 3 193 hectares and 510 hectares, respectively. Market prices of early maturing varieties were reduced substantially due to oversupply and foreign competition. Later maturing varieties received a relatively better price than in 1982 but imports from other potato-growing regions of the Pacific Northwest had a decided impact on prices.

British Columbia is noted for major technological advances in virus-free seed potato production such as the use of heat therapy and meristem tip culture to eradicate potato viruses X and S, potato leaf roll virus and potato stem virus, as well as bacterial ring rot. This provincial program has a world-wide reputation for achievement. Ministry responsibilities included the testing for viruses, viroids and bacteria in the mother plants used for stem-cutting propagation.

Other ministry activities relating to improvement of potato production included the evaluation of new varieties, the testing of golden nematode resistant varieties, testing for efficacy of new herbicides and testing for Saratoga and chip quality.

Nursery Stock

Sales of ornamental nursery stock were estimated to be $ 24.6 million in 1983, about 45 per cent being exported. Over-production in some of these markets and a drop in construction of new homes and commercial buildings contributed to reduced demand. Christmas tree growing continued to be a prosperous sector, well suited to the part-time farmer on marginal quality land. Ten research and demonstration projects on nursery stock were conducted by branch staff.

Greenhouse Crops

The greenhouse industry remained in a net growth position with cash farm value of products exceeding $40 million. Production of ornamental crops was estimated to be about $35 million and vegetable crops, $8 million. Major concerns of the industry are the high cost of land, labor and energy and the need to adopt new technology to remain competitive.

Research projects conducted by the ministry's greenhouse specialist included tests of early seeding schedules, plant densities, variety selections and a study to determine the cause of crown rot on cucumbers. Extension activities were conducted to encourage producers in adopting new technologies essential for profitable production.

Range Development

Five coordinated resource management plans for improvement of Crown range were completed during the year. However, development of further plans ceased due to termination of Regional Resource Management Committees and curtailment of ARDSA funding.

The demand for the ministry rangeland renovation equipment remained high with expansion of seeding operations into the Peace River and the East Kootenay regions. About 1 900 hectares of unproductive Crown and privately-owned grasslands were seeded during 1983.

Fourteen applied research and demonstration projects were conducted by range specialists including a comparison of fertilized and unfertilized crested wheatgrass range, a study of the grazing capacity of fertilized crested wheatgrass and grass and legume variety trials.

Weed Control

The Weed Control Act places the responsibility for weed control fully on the land occupier. The Minister of Agriculture and Food is responsible for enforcement and may make agreements with local governments respecting the costs of noxious weed control. In keeping with this policy, the ministry provided financial grants-in-aid of regional weed control programs to the extent of $224,000 to nine regional districts, two livestock associations and the B. C. Cattlemen's Association. Additional funds were provided for biological control research on knapweed and the development of remote sensing techology.

The ministry gave top priority to combat the spread of knapweed with most grants to regional districts for knapweed control. In addition, the ministry continued its knapweed containment program and treated 4 000 hectares of knapweed in frontier areas to protect uninfested grasslands.

Fifty-seven applied research projects were conducted by weed control specialists including tests of herbicide efficacy, alternate herbicides, pre-emergence herbicides and weed seed germination. Information derived from this research is included in production guides for farmers.

Urban Horticulture

The Master Gardener program has gained popularity in providing home garden information to the public throughout the Okanagan Valley, the Lower Fraser Valley and Southern Vancouver Island. This innovative program utilized the skills and experience of amateur gardeners. To date, some 166 individuals have received intensive training and earned Master Gardener status. They volunteered 6,501 hours of service in 1983.

Livestock Branch

The Livestock Branch assists producers to improve efficiency in production, to administer programs that identify animals of superior genetic value, to identify and publicize improved breeding and managerial practices, to maintain a corps of specialized commodity advisors and to develop and administer legislation related to activities of the branch.

Beef

Total beef kill in inspected plants was 75,000 head, down 11 per cent from 1982. There was a slight reduction in kills across Canada (0.2 per cent).

The Beef Technical Committee, a group of ministry staff whose interests relate to the beef industry developed a program to improve the cost efficiency of beef production. The plan was near completion at year-end and it was expected that the beef cattle specialist would be heavily committed to implementing the "BEEFUP" program in 1984.

Entrants to the 1983-84 Bull Test at Tranquille were 141 head, up 62 per cent over the previous year, but still below the average numbers consigned for the years 1978 to 1981, probably due in part to the Hereford breeders requesting weight minimums for admission which were considerably more difficult to meet than those which had previously been in effect. The branch has been advised that the 18th consecutive test, ending in 1984, will be the last in which ministry staff will provide daily care for the animals. The provincial
Advisory Committee on Beef Cattle Performance will be examining alternatives in 1984. The branch assisted the National Advisory Board in arranging the annual meeting in Victoria.

Swine

Hogs of B.C. origin slaughtered totalled 276,348 compared to 291,764 in 1982. Prices peaked in February above $85 per hundred weight but declined steadily to below $65 at year-end. Increased feed costs experienced during the year amounted to $6 per hog marketed. Increased feed costs and high interest rate committments caused 40 commercial operations to go out of business during 1983.

Plans were made for a home study course which will be offered to established and potential pork producers in 1984.

The Swine Home Record of Performance had 326 boars and 7,658 females probed in a program which continues to be an excellent means of directing breeding programs for the production of lean and rapdily growing pigs.

Dairy Cattle

Enrolment in the Dairy Herd Improvement Division was 510 herds, down 10 herds and 1,748 cows from the previous year. Average herd size was 68 with a total of 34,864 cows compared to an average herd size of 70 and a total of 36,612 for the previous year. Average production was 6,862 kg of milk at 243 kg of fat, an increase of 90 kg of milk and a decrease of 1 kg of fat.

The branch examined how down-sizing objectives could be met without seriously affecting the Dairy Herd Improvement Program while the B.C. Federation of Agriculture expressed concern over any possible depletion in service.

Sheep

Lambs of B.C. origin killed at inspected plants totalled 7,882 down 17.8 per cent compared to one year earlier. Sheep slaughters in Canada were up 18.4 per cent.

A study on Sheep and Lamb Marketing Opportunities, funded by ARDSA, confirmed that a lack of volume coupled with the costs of production were major problems prohibiting the expansion and development of the industry. A marketing committee is examining possible means of implementing the recommendations made in the report. The sheep specialist, in co-operation with the Veterinary Branch, prepared a Flock Health Guide for sheep producers, a publication which has been enthusiastically received both in B.C. and outside the province.

Horses

The swine specialist doubled as a horse specialist working closely with the Horse Council of British Columbia. Plans were made to write several factsheets dealing with the care of horses in an attempt to reduce cases of mismanagement which have been reported to the Society for the Prevention of Cruelty fo Animals.

Legislation

An increasing number of municipalities have asked for application of sections of the Livestock Protection Act. The branch requested that the Offence Amendment Act regulations allow Peace Officers to issue tickets to persons who fail to licence dogs in the manner prescribed in the Livestock Protection Act.

The branch reached a formal agreement with the Fish and Wildlife Branch, Ministry of Environment relating to staff responsibilities dealing with problem wildlife.

Extension

Extension projects included the publication of the Electric Fencing Manual, written by a New Zealand exchange advisor attached to the branch. The publication received recognition for is usefulness and was in demand. Alberta Agriculture requested permission to reprint the bulletin.

Poultry Branch

Egg supplies in B.C. and Canada continued to cause a serious problem resulting in surpluses and a heavy buy-back of surplus removal. Ministry staff are researching the facts of production, marketing, importation and surplus declaration of commercial eggs to determine what can be done to improve the producers' financial returns.

B.C. produced 52.8 million dozen eggs and imported 3.4 million dozen eggs in 1982 and a similar situation occurred in 1983. This trend is expected to continue because although the best seller is the large size egg, too many medium and small eggs are being produced.

A committee consisting of industry, Egg Board and ministry personnel is developing a program to level out chick placements with the co-operation of producer and egg-grading stations.

Chicken meat production increased by some 2.4 million kilograms to 38.7 million kilograms and is now nearly equal to B.C.'s national quota of 38.73 million kilograms. The average producer price for regular broilers was $1.11 cents per kilogram. During 1983, processing capacity expended replacing the loss of the Panco facility in 1982. The provincial quota of 38.6 million kilograms was filled to 98.5 per cent.

Hatching egg operators produced some 37 million eggs which was an increase of 1.2 million over 1982 resulting in a 4.2 per cent increase in chick hatch. Some eggs were exported when there was an over-supply.

There was a reduction in the processing of B.C. turkeys due to quota reductions and killing plant financial problems.

Poultry specialists have worked closely with the duck industry especially on

the improvement of management systems. The industry is growing with the establishment of the Fraser Valley Duck and Goose Farms processing 4,500 ducks per week. The main sphere of activity in the game bird sector was in the development of out-of-season production to enable producers to supply the market with fresh produce on a year-round basis.

Staff continued to assist the rabbit industry in production but the supply of rabbits is still too small to make the processing plant cost efficient.

Extension

Extension programs included a financial management workshop for egg producers, an egg producers conference and a broiler breeders conference.

Applied poultry research will now be conducted on farms and at the University of British Columbia. Two staff members were appointed as adjunct professors to U.B.C.'s Poultry Science staff bringing the university much closer to the problems of the industry and giving ministry staff access to research facilities at the university.

The effectiveness of Larvadex in preventing flies from developing in poultry manure was evaluated in 1983 in a trial at the ministry's Poultry Test Station at Abbotsford. The result of this test indicated that Larvadex did control fly development.

The Broiler Health and Avian Monitoring Laboratory began operations in September of 1983 at the Poultry Test Station. Twenty-eight flocks of day-old chicks have been tested for Mycoplasma serology and Salmonella culture. In addition, four flocks have received their first serum monitoring at 10 to 12 weeks for AE, IBD, VA, Mycoplasma, IB and NDV. The second serum monitoring for these flocks will be at 22 to 24 weeks. Preliminary data received from monitoring suggests a definite serum immunity deficiency to some viruses in all four flocks tested (IBD and AE). Results cannot be considered conclusive until the second tests are complete.

Day-old testing of chicks has shown the presence of Salmonella in nine flocks, either in the cockeral line or the pullet line. However, monitoring Salmonella positive flocks has not shown any increase in chick mortality.

Youth Development Branch

The Youth Development Branch administers the 4-H program and acts as the provincial coordinating office for the International Agricultural Exchange Association.

4-H

Membership in 4-H has increased steadily in British Columbia over the past five years. Last year there were 3,932 young people who enrolled in 281 clubs with a record number of leaders--986 adults who volunteered their services. Most popular areas of involvement were beef, dairy, horse, sheep and clothing projects.

Provincial 4-H Club Week is a major event each year at which members were selected to participate in the following events during 1983: the Washington, D.C. National Conference, Interprovincial 4-H Exchange, a Western Provinces 4-H Seminar held in Manitoba, a summer exchange with Nova Scotia, an exchange with clubs in Oregon, the National 4-H Members' Conference in Toronto and the National 4-H Citizenship Seminar in Ottawa.

The B.C. 4-H Foundation is well established and continues to contribute to the success of programs in the province. Its assets during the year totalled $120,000. A "Foundation One" seminar was held for 13 and 14-year-old members.

B.C. sent six 4-H members to the International 4-H Judging Seminar held at the Agribition livestock show in Regina. The Provincial 4-H Demonstration Competition was held in conjunction with the 4-H show at the Pacific National Exhibition.

The Youth Development Branch continued to work with the Western Indian Agricultural Corp. to establish 4-H clubs on Indian reservations. There are now 10 Indian 4-H clubs most of which participated in the Indian Fall Fair in Kamloops. A project incorporating 4-H material into the school system to enable students to receive concentrated instruction in beef husbandry and range management was initiated on the Upper Nicola Indian Reservation.

International Exchange

The International Agricultural Exchange Association gives young rural people the opportunity to travel to other countries to work on farms and live with farm families. During the year, B.C. hosted an orientation seminar for 34 exchange trainees coming to the province from Western Europe, New Zealand and Australia while 16 B.C. members travelled to other countries.

Financial Assistance Programs

ARDA Branch

The ARDA Branch administers and manages the Agriculture and Rural Development Subsidiary Agreement (ARDSA), a federal-provincial program designed to increase the quality and quantity of British Columbia's food production and to create new employment opportunities in the agriculture and food industry.

The program, jointly funded to $60 million for a five-year period from August 1, 1977 to July 31, 1982 was extended one year to July 31, 1983 as the date for approval of new projects, with the final completion date for approved work set at October 31, 1984.

Since 1983 was the final year for project approval, extra funding was placed at the disposal of the ARDSA program from the government's employment development program. As a result, 67 new projects were approved between March and July, to bring the total projects approved under the program to 402 with a program funding commitment of $58.5 million out of the $60 million provided by the ARDSA agreement.

ARDSA funds are directed into four key areas:

ARDSA August 1, 1977 to Dec. 31, 1982		Number of Projects	Total Project Cost	ARDSA Contribution
Part I	Research, Planning, Training and Market Promotion	67	5,858,939	5,119,187
Part II	Co-ordinated Resource Development Management (Range Improvement)	133	20,005,095	18,010,648
Part III	Primary Resource Development (Drainage and Irrigation	48	28,448,684	20,209,924
Part IV	Support Services and Community Development	154	65,633,692	15,167,587
	TOTAL	402	119,846,410	58,507,346

New Development

During 1983, a total of 67 new projects were approved and work begun. The total cost of these projects is estimated at $18.37 million with an approved ARDSA contribution of $12.21 million. Since the program began in August 1977, 402 projects received ARDSA support to the extent of $58.5 million. The total estimated cost of these projects to completion is in excess of $120 million. Thus this level of government contributions under ARDSA generated private sector investment of more than $60 million.

These projects represent increased agricultural productivity of under-developed land through improved drainage, installation of irrigation systems and major improvements to the grazing capacity of Crown rangelands through reseeding, water development and rotational management of livestock.

New and improved market outlet facilities have increased the efficiency of the B.C. food processing industry, have generated export demand for B.C. products, and created many new jobs in the food industry.

Agricultural Credit Branch

The Agricultural Credit Branch administers the credit programs offered by the ministry, under the provisions of the Agricultural Credit Act. These programs are designed to be of direct benefit to B.C. farmers.

Guaranteed Loan Program

In 1983, Provincial Government guarantees were provided to chartered banks and credit unions as support security on 26 farm loan portfolios. These guarantees totalled $2,936,000. With the guarantees in place, total loans of $10,216,700 were authorized by the lenders to these farming operations.

Seven claims were made by lenders and subsequently approved under the guarantee covenant in 1983 for a total of $823,872.

Agricultural Land Development Assistance (A.L.D.A.)

Through the ALDA program direct loans to eligible farm operators to a maximum of $25,000 may be approved to meet the cost of work and materials directly associated with land development and improvement.

In 1983, the branch issued 206 contracts for a total value of $2,313,000. There were 164 projects completed in the year thereby establishing loans of $1,478,000. Loan applications were accepted commencing January 1, 1983 and were limited to the budget capacity of $1.7 million. The program was fully committed for loan applications by February 10, 1983.

Partial Interest Reimbursement Program

As of December 31, 1983, the branch processed 4,767 applications for total benefits of $6,872,000 for partial reimbursement of loan interest costs incurred by farm operators in 1983. A total of 316 applications are still under audit review. If these applications are approved it is estimated that an additional $1,700,000 in benefits will be directed to farmers.

This program reduced the interest costs in 1982 to an effective rate of 15 per cent which is approximately one per cent below the chartered bank average prime lending rate for that calendar year. .

Special Programs

Grapevine Assistance Program - 1978/79--Initiated in 1979, the program was finalized in 1983 with a payment of $66,500 to the nine farm operators who still remained eligible to participate in the program. This program was initiated to assist farmers in re-establishing grapevines destroyed, or severely damaged, by the winter frost of 1978-79.

Asparagus Production Incentive Program--At year-end, there were 11 farm operators enrolled in the program involving the planting of 120.4 hectares to asparagus. Special interest reimbursement benefits paid in 1983 representing claims on interest paid in 1982 amounted to $12,923 bringing the total benefits to date under the program to $30,440.

Rain-damaged Crop Assistance Program - South Coastal District

There were 94 special reimbursement of interest applications approved in 1983 with benefits of $145,000 being paid. The program was designed to assist growers who suffered losses on eligible crops as a result of record rainfalls in 1981.

Crop Insurance Branch

The function of the Crop Insurance Branch is to administer the B.C. Insurance for Crops Act. Within the context of this Act, the objectives of the branch are:

1. To reduce the fluctuations in income of individual producers who suffer crop losses due to weather and other uncontrollable factors.

2. To maintain an effective system for administration of crop insurance programs for selected commodities.

3. To reduce the need for ad hoc assistance programs in crop loss situations.

The Canada-British Columbia Crop Insurance Program involves the participation of the farmer, the provincial government and the federal government.

The farmer and the federal government each contribute 50 per cent of the total cost of the premium involved, while the provincial government contributes the cost of administering the program. The federal government's contribution to the program totalled $3.565 million for 1983. The Government of British Columbia provided all the administration costs for the Crop Insurance program totalling approximately $0.84 million in 1983.

Participation in the program expanded in 1983 in both number of participants and the value of insurance coverage written. Since the inception of the program, $33,106,923 has been paid in indemnities to the end of the 1982 crop year and $32,282,078 has been earned in premiums.

Weather

Rainfall in all areas of British Columbia was well above average levels during 1983. Rainfall in the Okanagan and Fraser Valley regions approached record levels. Unusually heavy rainfall in the Peace region occurred during June and July particularly.

Average temperatures for 1983 were well above normal at 8.3 degrees C (to December 9th). The long-term average temperature is 7.7 degrees C and significantly above the 7.1 degrees C level recorded in 1982. In the Peace River district, January was unusually warm with an average temperature of -7 degrees C compared with the long-term norm of -17 degrees C.

The Okanagan region had warm weather early in the year which led to an earlier than normal flowering of fruit trees. Persistent rains showers in June caused

widespread damage to cherry crops from rain splitting for the fourth consecutive year. Severe hailstorms occurred in July in the Central Okanagan causing exceptional damage to the apple and pear crops over a very large area. The storm caused the most damage experienced since the 1940's.

In the Fraser Valley, the mild January and February weather, and subsequent heavy rains caused damage to strawberry, raspberry and vegetable crops. Blueberries and cranberries, however, were claim-free for the second consecutive year.

In the Peace River region, the spring season was relatively cool and very dry which caused problems, particularly in the crops of canola. Heavy rains in late June and July caused further damage to canola and barley crops. Frequent rains in September and October made harvesting difficult and slow with much of the grain having to be dried at additional cost to growers.

As a result of the extremes of weather conditions in 1983, crop losses were significant and indemnities under the Crop Insurance Program are the largest since the inception of the program. Growers enrolled in the Tree Fruit Plan suffered the most extreme damage and received the largest portion of the total indemnities paid.

SUMMARY OF LOSS EXPERIENCE

	Claims/Premium Ration (%)	
	1982	Cumulative
Loss experience for all programs	126.40	102.60
Grain program	171.33	104.80
Tree Fruit program	132.23	102.91
Berry program	33.11	89.05
Grape program	6.21	97.02
Forage program	229.83	173.48
Vegetable program	39.99	80.11

ADMINISTRATION

	April 1, 1982 to March 31, 1983	April 1, 1981 to March 31, 1982
Provincial administration costs	$ 633,412	$ 606,991
Federal government preimum contribution	2,465,047	2,129,452
Administration cost to federal contribution	25.70	28.50
Administration cost to total coverage	1.08	1.16
Administration cost to total claims	10.01	10.37

Statistical Section

Status of Crop Insurance Fund at March 31, 1983

	March 31/83 (Cr)	March 31/83 (Cr)
Due from Government of Canada	$	$
Interest on Fund	(1,694,857.97)	(1,359,039.17)
Grain Program	(1,219,354.12)	(1,722,059.10)
Tree Fruit Program	359,320.04	(769,068.49)
Berry Program	(727,350.36	(532,092.56)
Grape Program	13,206.41	197,054.25
Forage Program	310,989.53	120,611.85
Vegetable Program	(104,910.81	42,457.51
Crop Insurance Fund Balance	$3,062,957.28	$4,022,135.71

Note: This statement shows the actual status of the Crop Insurance Fund as of the end of the 1982/83 fiscal year. The above figures do not correspond with those of the individual programs, which are by crop year, as the time periods do not correspond.

Farm Income Insurance Branch

The Farm Income Insurance Branch develops and administers farm income insurance programs designed to protect producers against income loss due to low market returns and/or rapidly escalating input costs. There were 11 plans in place at year-end. With the exception of the Broiler Hatching Egg Plan which is due to expire March 31, 1984, all the plans are on-going and operate on the basis of an equal premium from the government and participating producers.

Expenditure

For the calendar year 1983 the branch disbursed over $28.1 million to 4,600 producers

These producers are distributed as follows:

PLAN	NO. OF PARTICIPANTS JAN. 1/83	NO. OF PARTICIPANTS DEC. 31/83	Increase (+) or Decrease (-) in 1983
Beef	1,857	1,999	+142
Blueberries	124	118	-6
Broiler Hatching Eggs	39	39	0
Greenhouse Vegetables	84	86	+2
Potatoes	0	97	+97
Processing Strawberries	50	50	0
Processing Vegetables	37	37	0
Raspberries	124	192	+68
Sheep	142	129	-13
Swine	267	267	0
Tree Fruit	2,051	1,629	-422*
	4,775	4,643	-132

*Consolidation of records.

The amounts disbursed for each commodity were:

Beef	$ 12,082,920
Blueberry	(108,906)
Broiler Hatching Eggs	22,605
Greenhouse Vegetables	1,096,410
Potatoes	1,217,690
Processing Strawberries	(48,202)
Processing Vegetables	16,525
Raspberries	868,718
Sheep	110,665
Swine	91,410
Tree Fruit	12,824,858
TOTAL	$ 28,174,693

New Plan

Effective April 1, 1983 a second generation potato plan was approved by Order-In-Council providing coverage for 1982 and ensuing years. Producers of potatoes grown commercially in British Columbia and sold for table or processing use are eligible for coverage.

The potatoes are separated into four categories: early, second early, late and processing. Separate indemnity and premium rates are applied to each. To be eligible for coverage producers must ship a minimum of 30 tons of eligible potatoes.

Farm Products Finance Branch

The Farm Products Finance Branch administers a program of financial assistance to agricultural enterprises engaged in the processing of British Columbia agricultural products. Under the Farm Product Industry Act, assistance may be provided in the form of loans, guarantees and grants.

Financial Assistance

Activity continued at a high level throughout 1983. Requests for financial assistance were received from 60 agricultural or food processing organizations and 38 were examined in detail for possible assistance. Five proposals were approved for support totalling $2.1 million. At the end of the year, there was a total of $4,191,600 outstanding in loans and guarantees.

ASSISTANCE DISBURSED DURING 1983

Kootenay Dehydrators Ltd., Creston - guarantee payout (net of recoveries)	$ 1,400,000
Bulkley Valley Agro Developments (1980) Ltd., Telkwa - guarantee payout	100,000
Advisory Service Provided by Consultants	86,208
Ra-Bitco Farms Ltd., Mission - loan for working capital	50,000
Graminae Holdings Limited - 5-year program of seed industry support	37,637
British Columbia Fruit Growers' Test Orchard Ltd., Oliver - 5-year program of new variety testing.	24,852
Association of British Columbia Grape Growers, Kelowna 3-year program of developing new varieties	6,782
Ra-Bitco Farms Ltd., Mission - grant for market development	5,000
Creston Valley Vegetable Growers Association - grant for study of vegetable markets	3,200
Total	$1,713,679

GUARANTEES AND LOANS OUTSTANDING AT YEAR END

	Dec. 31, 1983	Dec. 31, 1982
GUARANTEES:		
Cloverdale Lettuce and Vegetable Co-operative	$ 24,203	$ 59,203
Creston Co-operative Packers	33,943	33,943
Kootenay Dehydrators Ltd.	--	1,849,485
Pan-Ready Poultry (1980) Ltd.	2,000,000	1,000,000
Scott Poultry Co-operative Association	1,941,476	2,551,806
Sun Dew Foods Ltd.	40,000	40,000
	$ 4,039,622	$ 5,534,437
LOANS:		
Hodgson Bee Supplies Ltd.	42,000	53,000
Ra-Bitco Farms Ltd.	110,000	60,000
	$ 152,000	$ 113,000
TOTAL	$ 4,191,622	$ 5,647,437

Information Services Branch

The branch continued to function as the communications arm for the ministry in the preparation of technical publications, audio-visual aids and public relations material.

The introduction of a centralized government information service under the Ministry of the Provincial Secretary caused reorientation of branch operations particularly in the preparation and approval process for publications and advertising. The branch's media production centre (audio-visual unit) at Kelowna was affected with the transfer of two of the three staff members to Government Information Services in December.

Technical Information

The preparation and printing of technical publications continued to be the foundation of the ministry's extension effort to farmers. A total of 51 publications were either newly-printed, revised, or reprinted, highlighted by the annual series of eight production guides. A new production guide on the subject of greenhouse ornamental production was written and available for the 1984 crop year. Other new publications were prepared on topics including rabbit production, electric fencing, flock health for sheep producers and legal aspects of private farm leases.

Ministry factsheets continued to be an excellent source of timely information for farmers. Preparation of these extension bulletins was facilitated by the installation of Wang word-processing equipment in regional offices. Over 60 factsheets were written and mailed under the following headings: Pest Control Notes, Animal Health Information, Field Crop Facts, Urban Gardener, British Columbia Food Markets, Food Markets and Prices, Agri-Commodity Prices, Agrimarket Reporter, Pesticide Notes, Stock Talk and Farm Business Management.

The branch's audio-visual unit (media production centre) at Kelowna continued to provide ministry specialists with slide-tape, 1/2" video-tape and photographic services. A total of 11 major projects were either continued or completed during the year. Many focused on the beef industry while others dealt with subjects such as pesticide handling in greenhouses, food marketing in British Columbia and B.C. agriculture in general.

With the implementation of a central audio-visual service under GIS, the unit was destined to be amalgamated as a field office of the Government Production Centre (television unit) based in Victoria which would involve substantial upgrading of equipment and perhaps additional staff.

Public Relations

Preparation of speech reference material, advertisements, feature articles, news releases and promotional leaflets were the major activities conducted under the branch's public relations function.

A total of 41 news releases were prepared and issued during the year. They dealt with program changes, new programs, extension events, deadline dates for financial programs and ministerial statements made at agricultural events.

Information on B.C. agriculture was sent to B.C. Business Magazine for a 16-page supplement printed in the October edition.

A 16-page brochure was developed to outline agricultural courses offered by the various universities and colleges throughout the province for prospective agricultural students who may be considering an agricultural career.

A total of 17 advertisements were placed during 1983 to promote farmer awareness of financial program deadline dates, extension events, specific commodity programs and seminars/workshops.

In September, an advertising agency search was conducted resulting in the appointment of West Can Advertising of Vancouver for a three-year term. The mandate assigned was to design and develop a campaign that would enhance the profile of B.C. agriculture and particularly B.C. food products as a replacement to the well-used "B.C. Home Grown" program.

Several feature articles were prepared on programs such as the ministry's range-seeding equipment, the United Kingdom apple-promotion mission and on the Farm Business Challenges seminar in January, 1984.

BRITISH COLUMBIA MINISTRY OF AGRICULTURE AND FOOD OFFICES

Abbotsford:	205 - 33780 Laurel Street V2S 1X4	859-5281
	Engineering Branch, 33832 South Fraser Way V2S 2C5	853-6451
	Research and Demonstration Centre, 32916 Marshall Road V2S 1K2	859-8919
	Veterinary Laboratory, Box 100 V2S 4N8	853-1161
Burnaby:	Dairy Laboratory, 3705 Willingdon Ave. V5G 3H3	434-3326
Chilliwack:	5 - 8635 Young Road South V2P 4P3	795-9471
Cloverdale:	17720 - 57th Avenue, Surrey V3S 4P9	576-2911
Courtenay:	209 - 420 Cumberland Road V9N 5M6	338-7465
Cranbrook:	202 - 135 10th Avenue South V1C 2N1	489-3521
Creston:	456 Northwest Boulevard V0B 1G0	428-5371
Dawson Creek:	1201 - 103rd Avenue V1G 4J2	782-5931
Duncan:	238 Government Street V9L 1A5	746-6183
Fort St. John:	201 - 9711 100th Avenue V1J 1Y2	787-1111
	Crop Insurance Branch, 221 - 9711 100th Avenue V1J 1Y2	787-1111
Kamloops:	162 Oriole Road V2C 4N7	374-3614
Kelowna:	1873 Spall Road V1Y 4R2	860-3588
Oliver:	Court House, Box 940 V0H 1T0	498-2420
Prince George:	Experimental Farm Site, R.R. #8, RMD 7, V2N 4M6	963-9685
Quesnel:	208 - 350 Barlow Avenue V2J 2C1	992-5591
Salmon Arm:	Samara Building, Box 639 V0E 2T0	832-2088
Sidney:	Bldg. 20, Saanichton Research Station, 8801 E. Saanich Rd. V8L 1H3	656-0941
Smithers:	Government Building, Bag 5000 V0J 2N0	847-4411
Summerland:	Research Station, Box 198 V0H 1Z0	494-0401
Vanderhoof:	Church Avenue, Box 987 V0J 3A0	567-2111
Vernon:	4607 - 23rd Street V1T 4K7	545-1387
Victoria:	Minister's Office, Parliament Buildings V8W 1X4	387-3656
	Head Office, 808 Douglas Street V8W 2Z7	387-5121
Williams Lake:	540 Borland Street V2G 1R8	392-6261

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